



Attorney Docket No. SAK-110

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Number: 6,222,161

Issued: April 24, 2001

Certificate

NOV 26 2002

Name of Patentee: Shirakawa et al.

of Correction

Title of Invention: Heat Treatment Apparatus

**REQUEST FOR CERTIFICATE OF CORRECTION OF PATENT
FOR APPLICANT'S MISTAKE (37 C.F.R. 1323)**

Commissioner for Patents
Washington, D.C. 20231

**Attention: Decision and Certificate of Correction
Branch of the Patent Issue Division**

Sir:

It is respectfully requested that a Certificate of Correction be issued in connection with the above-identified patent. It appears that a mistake was recorded through the fault of the Patent and Trademark Office in the printing of the patent is clearly disclosed by the records of the Office within the meaning of 35 USC § 254. Specifically, there are typographical errors in claims 26 and 30. Accordingly, two copies of the special Certificate of Correction are attached hereto. We have also enclosed the pages of the patent which contain the errors noted, marked in red ink. It is believed that the errors noted are an errors of consequence, and thus warrants the granting of a Certificate of Correction.

NOV 26 2002

It is believed that these errors were made on the part of the Office and that no government fee is required. However, should any costs be incurred, please consider this authorization to charge Deposit Account No. 18-0013.

Dated:

11/22/02

Respectfully submitted,



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a second heating means for heating an upper surface of the substrate to be treated at a temperature higher than the first heating means.

12. The heat treatment apparatus as set forth in claim 11, which further comprises:

a means for controlling the second heating means to a temperature where the substrate to be treated is exposed to heat treatment at an aimed temperature.

13. The heat treatment apparatus as set forth in claim 12, which further comprises:

a means for detecting the temperature of the substrate to be treated;

wherein the controlling means is a means for controlling the second heating means, based on the detected temperature of the substrate to be treated, so that a temperature of heat treatment of the substrate to be treated is an aimed temperature.

14. The heat treatment apparatus as set forth in claim 12:

wherein the first heating means is a heating plate thereon a substrate to be treated is disposed, and which comprises further a cover assembly which is disposed opposite to the heating plate above the heating plate and evacuates a gas heated by the heating plate;

the second heating means is at least one heater disposed on a surface of the cover assembly opposed to the heating plate; and

the controlling means comprises a first control unit for maintaining the heating plate at a predetermined temperature, and a second control unit for adjusting the heater to a temperature which is higher than the heating plate and under which the substrate to be treated is treated at an aimed temperature.

15. The heat treatment apparatus as set forth in claim 12:

wherein the first heating means is a heating plate thereon a substrate to be treated is disposed, and which comprises further a cover assembly which is disposed opposite to the heating plate above the heating plate and evacuates a gas heated by the heating plate, and a sensor for detecting the temperature of the substrate to be treated;

the second heating means is at least one heater disposed on a surface of the cover assembly opposed to the heating plate; and

the controlling means comprises a first control unit for maintaining the heating plate at a predetermined temperature, and a second control unit for adjusting the heater, based on the detected temperature of the substrate to be treated, to a temperature which is higher than the heating plate and under which the substrate to be treated is treated at an aimed temperature.

16. The heat treatment apparatus as set forth in claim 14: wherein the at least one heater of the second heating means divided into a plurality of heaters capable of turning on and off an electric power source independently.

17. The heat treatment apparatus as set forth in claim 14: wherein the at least one heater of the second heating means is disposed concentric.

18. The heat treatment apparatus as set forth in claim 17: wherein the at least one heater of the second heating means is divided into two or more parts along a diameter direction.

19. The heat treatment apparatus as set forth in claim 14: wherein the at least one heater of the second heating means is a gradation heater of which heating capacity

is continuously inclined from the center of the cover assembly to the periphery portion.

20. The heat treatment apparatus as set forth in claim 14: wherein the heating plate is a thermal surface plate which maintains a predetermined temperature by heating medium vapor circulating inside thereof.

21. The heat treatment apparatus as set forth in claim 14: wherein, on a lower surface side of the cover assembly, a flat surface opposite to the heating plate is formed.

22. The heat treatment apparatus as set forth in claim 8: wherein the means for surmising the temperature is an arithmetic unit which is connected to the sensor and, based on the detected temperature, surmises mathematically the temperatures of the each portions of the heat treatment table;

wherein the controlling means is a control unit which is connected to the arithmetic unit and, based on the surmised temperatures of the each portions, controls the output of the each heaters so that the temperature of the entire heat treatment table is uniform.

23. The heat treatment apparatus as set forth in claim 8: wherein each of the heaters disposed to the heat treatment table are disposed concentric, and sensors are disposed in one line in a diameter direction of the heat treatment table.

24. The heat treatment apparatus as set forth in claim 10: wherein the means for surmising the temperature is an arithmetic unit which is connected to the sensor and, based on the detected temperature, surmises mathematically the amount of heat supplied to the each portions of the substrate to be treated;

wherein the controlling means is a control unit which is connected to the arithmetic unit and, based on the surmised temperatures of the each portions, controls the output of the each heaters so that the amount of heat supplied to the substrate to be treated is uniform.

25. The heat treatment apparatus as set forth in claim 10: wherein each of the heaters disposed to the heat treatment table are disposed concentric, and sensors are disposed in one line in a diameter direction.

26. The heat treatment apparatus as set forth in claim 3, further comprising:

AS SET FORTH
a first heating means for heating a lower surface of a substrate to be treated to a predetermined temperature; and

a second heating means for heating an upper surface of the substrate to be treated at a temperature higher than the first heating means.

27. The heat treatment apparatus as set forth in claim 26, which further comprises:

a means for controlling the second heating means to a temperature where the substrate to be treated is exposed to heat treatment at an aimed temperature.

28. The heat treatment apparatus as set forth in claim 27, which further comprises:

a means for detecting the temperature of the substrate to be treated;

wherein the controlling means is a means for controlling the second heating means, based on the detected temperature of the substrate to be treated, so that a temperature of heat treatment of the substrate to be treated is an aimed temperature.

29. The heat treatment apparatus as set forth in claim 27: wherein the first heating means is a heating plate thereon a substrate to be treated is disposed, and which com-

prises further a cover assembly which is disposed opposite to the heating plate above the heating plate and evacuates a gas heated by the heating plate; the second heating means is at least one heater disposed on a surface of the cover assembly opposed to the heating plate; and

the controlling means comprises a first control unit for maintaining the heating plate at a predetermined temperature, and a second control unit for adjusting the heater to a temperature which is higher than the heating plate and under which the substrate to be treated is treated at an aimed temperature.

30. The heat treatment apparatus as set forth in claim 27: wherein the first heating means is a heating plate thereon a substrate to be treated is disposed, and which comprises further a cover assembly which is disposed opposite to the heating plate above the heating plate and evacuates a gas heated by the heating plate, and a sensor for detecting the temperature of the substrate to be treated;

the second heating means is at least one heater disposed on a surface of the cover assembly opposed to the heating plate; and

the controlling means comprises a first control unit for maintaining the heating plate at a predetermined temperature, and a second control unit for adjusting the heater, based on the detected temperature of the substrate to be treated, to a temperature which is higher

than the heating plate and under which the substrate to be treated is treated at an aimed temperature.

31. The heat treatment apparatus as set forth in claim 29: wherein the at least one heater of the second heating means is divided into a plurality of heaters capable of turning on and off an electric power source independently.

32. The heat treatment apparatus as set forth in claim 29: wherein the at least one heater of the second heating means is disposed concentric.

33. The heat treatment apparatus as set forth in claim 32: wherein the at least one heater of the second heating means is divided into two or more parts along a diameter direction.

34. The heat treatment apparatus as set forth in claim 29: wherein the at least one heater of the second heating means is a gradation heater of which heating capacity is continuously inclined from the center of the cover assembly to the periphery portion.

35. The heat treatment apparatus as set forth in claim 29: wherein the heating plate is a thermal surface plate which maintains a predetermined temperature by heating medium vapor circulating inside thereof.

36. The heat treatment apparatus as set forth in claim 29: wherein, on a lower surface side of the cover assembly, a flat surface opposite to the heating plate is formed.

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UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,222,161 *Bl*

DATED : April 24, 2001

INVENTOR(S) : Shirakawa et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In the Claims:

Column 26, Line 43, ~~Claim 26~~

Please replace "set for the" with --as set forth--.

Column 28, Line 2, ~~Claim 30~~

Please replace "he" with --be--.

MAILING ADDRESS OF SENDER:

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No. of add'l. copies